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EPA VALUE ENGINEERING

Office of Emergency and Remedial Response
Hazardous Site Control Division OS - 220

Quick Reference Fact Sheet

Circular No. A-131, issued by the Office of Management and Budget on January 26, 1988, requires the use of Value Engineering (VE), when appropriate, by Federal Departments and Agencies to identify and reduce nonessential procurement and program costs. Value Engineering is a specialized cost-control technique that uses a systematic and creative approach to identify and reduce unjustifiably high costs in a project without sacrificing the reliability or efficiency of the project or affecting the Record of Decision (ROD) or basis of design.

VALUE ENGINEERING DURING DESIGN

It is the responsibility of EPA's Remedial Project Manager (RPM) to assure that VE screening, and VE study if appropriate, is conducted on each fund-financed remedial design. Typically, the designer should be awarded the VE study task if the screening conducted during preliminary design indicates the need for the study, and an independent and objective study can be conducted within the design firm. For some designs, the Bureau of Reclamation, the Corps of Engineers, or a firm with the requisite expertise should conduct the study.

The VE study is different from design reviews. The design reviews concentrate on functional aspects such as whether the design works, is sufficiently reliable, and meets the designer's contractual obligations. VE, on the other hand, is focused on reducing the investment necessary to achieve those functions. It should be noted that the focus of VE does not preclude the VE team from identifying technical errors or omissions and alerting the designer so these problems can be taken into consideration during the design reviews.

The VE study should be scheduled so as to minimize the impact on the design schedule. If the VE workshop and decision-making process are structured to avoid adding time to the schedule (i.e., not on the critical path), then the only potential schedule impact would be caused by a design change resulting from the VE process and not from the process itself. A design change and its associated cost are part of the decision-making process of accepting or rejecting the VE recommendation.

When planning a design project, the party contracting for design must include VE in the design tasks. This begins with an initial VE screening during preliminary design to determine if the project will include any high-cost, non-industry standard items and unusual design. If the screening task identifies a potential cost savings, a VE study must be initiated.

To perform this study, a VE study team leader selects a multidisciplinary team with VE experience and technical knowledge to conduct the review. Guided by the team leader and possibly a team coordinator, this group of technical experts completes a prescribed six-phase process that culminates in the presentation of cost saving alternatives first to a review board and later, if accepted, to the original project design team. These six phases are: information, creative analysis, development, presentation, and implementation.

The primary activities of this six-phase process have been standardized and typically take the form of a one-week workshop. Projects can often be reviewed in less time, however, depending upon their complexity. A VE study may not be appropriate for a simple design, whereas a complex design may require a level of effort between 200 and 500 hours.

VALUE ENGINEERING DURING REMEDIAL ACTION

The VE incentive clause, found in the Federal Acquisition Regulation (FAR) at 52.248-3, is generally included in federal remedial action contracts over $100,000. REM and ARCS firms may choose to include the clause in their subcontracts for remedial action, even if not directed to do so by EPA's contracting officer. States and claimants under mixed funding may also choose to use a similar clause in their remedial action contracts.

The VE incentive clause provides the opportunity to the remedial action (RA) contractor to use its unique knowledge and experience as a basis for submitting a Value Engineering Change Proposal (VECP). The VECP is the RA contractor's proposal to change contract requirements in such a way that the price of the contract is reduced. To have a valid VECP, the RA contractor must submit the following information:

- A description of the proposed change and the contract requirement.
- An itemization of the contract requirements that must be changed.
- An estimate of the performance costs that will be reduced if the proposal is adopted.
- A prediction of any saving the change may have on operations, maintenance, or equipment.
- A statement of time by which the proposal must be implemented by the party contracting for remedial action.

To ensure the program's effectiveness and integrity, individuals and firms who have prior involvement in the project design or in other value engineering activity prior to remedial action are not eligible to participate, directly or indirectly, in the development and preparation of a VECP or monetary sharing of any resulting savings.

While the VECP is being processed, the RA contractor should continue the construction activity as scheduled. As a minimum, a VECP should result in a net capital cost reduction while causing no increase in the total life cycle cost of the project and meeting the following conditions:

- The required function, reliability, and safety of the project will be maintained.
- The proposed change will not result in any contract resolicitation.
- The proposed change will not cause undue interruption of the contract work.

Savings resulting from the change proposal are normally shared between the RA contractor and the contracting party after the RA contractor is reimbursed for its cost of implementing the change. Prior to approval of the VECP, the party contracting for remedial action must consult the designer regarding any impact on the design.

RPM CONSULTATION AND REPORT

EPA's RPM must be consulted during the VE study and VECP review if there will be a delay in the completion of the design or construction, an increase in cost, or an impact on the environment or public health, Record of Decision (ROD), or basis of design. The VE study team leader and VECP reviewer must prepare, for EPA's RPM, a final written report containing the cost of the study or review, findings and recommendations, estimated cost savings, and reasons for rejection of any recommendations. The RPM must forward this report to HSCD's VE Coordinator (OS-220), Washington, D.C. 20460, for inclusion in an annual EPA report.